

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)	
)	
Revision of the Commission's Rules)	CC Docket No. 94-102
To Ensure Compatibility with)	RM-8143
Enhanced 911 Emergency Calling Systems)	

To: Chief, Wireless Telecommunications Bureau

**PETITION FOR WAIVER OF
SACO RIVER CELLULAR TELEPHONE COMPANY
dba STARCELLULAR**

SACO RIVER CELLULAR TELEPHONE COMPANY dba STARCELLULAR ("StarCellular"), by its attorney, hereby requests a waiver of the Text Telephone Devices ("TTY") requirements of Section 20.18(c) of the Commission's rules, 47 C.F.R. § 20.18(c). This waiver petition is filed pursuant to Section 1.3 of the Commission's rules, 47 C.F.R. § 1.3, and the November 13, 1998 order in the above-captioned proceeding.¹ StarCellular requests this waiver because StarCellular's switch manufacturer/vendor does not yet provide the necessary hardware and software to accommodate TTY for emergency calling systems on digital wireless systems.

StarCellular is the licensee of Station KNKA644, the Block B cellular provider for the Portsmouth-Dover-Rochester, NH-ME NECMA. StarCellular currently provides analog cellular service in its market. StarCellular has completed installation of CDMA digital technology and plans to place digital service into full commercial operation on

¹ *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, DA 98-2323 (released November 13, 1998) (hereinafter, the "November 13 Order").

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August 1, 1999. StarCellular's digital system utilizes switches manufactured by Lucent Technologies ("Lucent"). While Lucent has been at the forefront of working to develop a solution to the TTY/E911/digital wireless dilemma,² its commercially available switch equipment is not currently TTY compatible.³

Section 20.18(c) of the Commission's rules, as initially adopted, required digital wireless systems to be capable of transmitting 911 calls through the use of TTY devices as of October 1, 1997. However, on reconsideration, the Commission suspended enforcement of this requirement until October 1, 1998.⁴ In the *November 13 Order*, the Wireless Telecommunications Bureau ("Bureau") further suspended enforcement of Section 20.18(c) until December 31, 1998. *November 13 Order*, ¶ 10. The Bureau also established procedures for requesting a waiver of Section 20.18(c) as of January 1, 1999. *Id.* at ¶ 11. In an order adopted on December 30, 1998, the Commission granted a temporary waiver of Section 20.18(c) of the rules to all parties that had filed waiver requests as of December 30, 1998 in accordance with the procedures established in the *November 13 Order*.⁵ Since StarCellular was not offering digital cellular service on January 1, 1999, StarCellular did not file a waiver in December 1998. Now, however, StarCellular plans to initiate digital service later this summer, and thus requests both a

² See FCC Public Notice, DA 99-895, *Wireless Telecommunications Bureau Reports on Status of Pending TTY Waiver Petitions*, released May 13, 1999.

³ See Letter from Albert Jordan, Director, CDMA Product Management, Lucent Technologies, dated April 19, 1999 (Attachment A).

⁴ *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems (Reconsideration)*, 12 FCC Rcd. 22665 (1997).

⁵ *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, 14 FCC Rcd. 1700 (1998).

permanent waiver, and a temporary waiver of Section 20.18(c) of the Commission's rules similar to those received by parties filing waiver requests in December 1998.⁶

The *November 13 Order* required that waiver petitions address three issues:

What steps the carrier is taking or intends to take to provide users of TTY devices with the capability to operate such devices in conjunction with digital wireless phones.

When the carrier intends to make this capability available to TTY users. This information should include well-documented timetables and milestones from the carrier regarding the implementation of this capability.

What reasonable steps the carriers will take to address the consumer concerns referenced in the *September 30 Order*.⁷

As the Commission has acknowledged, carriers utilizing digital technology have encountered a number of difficulties in accommodating TTY. These difficulties are currently being studied by the Wireless TTY Forum. StarCellular's switch manufacturer, Lucent, has actively participated in the Wireless TTY Forum and has been diligently working towards resolving the TTY incompatibility dilemma. In fact, Lucent has been developing a promising proposed solution to the TTY problem that would encompass upgrades to cellular base stations and to digital handsets.⁸ Once Lucent's, or any other, solution is determined to be viable and the necessary equipment is available, StarCellular will obtain and incorporate that equipment into its cellular system.

⁶ See *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, DA 99-1126 (released June 9, 1999).

⁷ *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, DA 98-1982 (released September 30, 1998) ("*September 30 Order*").

⁸ See May 13, 1999 Public Notice, *supra*; see also April 19, 1999 letter from Lucent Technologies (Attachment A).

Lucent's April 19, 1999 letter indicated that work on the proposed TTY solution is in progress and anticipates that a trial of its proposed solution could be conducted in the second half of 1999. However, as Lucent points out in its letter, the total solution would involve adoption by handset manufacturers, so neither Lucent nor StarCellular can speculate as to when carriers could comply with the TTY mandate. StarCellular will, of course, incorporate TTY compatibility as soon as the underlying equipment becomes commercially available.

Finally, the *November 13 Order* requires a petitioner to enumerate the steps it will take to address the consumer concerns referenced in the *September 30 Order*. These concerns, listed in the Appendix to the *September 30 Order*, consist of operational/functional criteria for customer premises equipment and wireless switches. Criteria listed for customer premises equipment is within the purview of handset manufacturers. Likewise, criteria listed for switches must be addressed by switch manufacturers such as Lucent. StarCellular is dependent upon these manufacturers to provide compatible equipment before it can offer TTY compatible service.

StarCellular has addressed the three issues outlined in the *November 13 Order* for a waiver of Section 20.18(c) of the Commission's rules. Accordingly, StarCellular respectfully requests that it be granted a permanent waiver of the requirement to support TTY access on its digital system until such time as a solution to the TTY access dilemma for digital wireless carriers is fully developed. StarCellular also respectfully requests a

temporary waiver of the rule while the Commission considers grant of a permanent waiver,⁹ such has been granted to similarly situated wireless carriers.¹⁰

Respectfully submitted,

SACO RIVER CELLULAR
TELEPHONE COMPANY dba
STARCELLULAR

By: 

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Dated: June 29, 1999

⁹ StarCellular notes that the Bureau is maintaining granted temporary waivers indefinitely and has deferred further action on pending permanent waiver petitions due to the emergence of Lucent's potential solution to the TTY compatibility problem. See Public Notice, DA 99-895, released May 13, 1999, *supra*.

¹⁰ See n. 6, *supra*. StarCellular also agrees with Centennial Cellular Corp's. comment that "[i]n the present situation, a waiver of the Section 20.18(c) TTY requirement is justified not only for Centennial but the entire digital wireless service provider industry until such time as a voice-based or data-based solution to TTY access is developed for digital wireless carriers." Petition for Waiver of Centennial Cellular Corp., filed May 14, 1999, at p. 4. Such a blanket waiver, while the industry is working diligently to resolve the TTY compatibility problem in such arenas as the Wireless TTY Forum, would save the Commission the valuable time and resources it would expend to consider each temporary and permanent waiver request filed by individual wireless carriers.

ATTACHMENT A

Lucent Technologies
Bell Labs Innovations



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April 19, 1999

Subject: Lucent Technologies TTY/TDD Status update

This memo provides a status update on progress that has been made with the Text Telephone Device (TTY) solution for digital wireless systems. Lucent Technologies continues to actively participated in industry and consumer forums focusing on the compatibility of TTY signals and digital wireless systems and has developed promising strategies to solve this difficult problem.

Lucent's in-band TTY/TDD solution consists of some interoperable modifications of the CDMA vocoders. Essentially, the solution consists of detecting and decoding the Baudot TTY/TDD signals at the input to the speech encoder at the transmit side, and then using the bits normally used for transmitting pitch information to transmit decoded characters redundantly to the speech decoder at the receiver. The decoder at the receiver, directed by some special logic, then regenerates the character locally. Simulation results demonstrate that the this solution achieves effectively 0% character error rate (CER) for CDMA channels with as much as 5% FER. The predicted CER for this channel without the algorithm would be in excess of 50%.

This solution has been presented to the CTIA TTY Forum, the CDG, and TIA TR45.5.1.1. It has been well received by all of these forums, and the TIA has granted provisional standard document identifiers (PNs) for an EVRC and a CDMA-13 version of this solution. Lucent has distributed a C-language simulation of the solution incorporated into the TIA's golden EVRC simulation to the TIA for independent member verification and testing.

The next step towards moving the solution ahead is developing partnerships with handset vendors for conducting over the air trials and for the production of handsets. Dialogue with handset vendors has been initiated and to date a partnership has not been established. A number of CDMA carriers have indicated that they would be willing to host a trial in their systems. Such a trial would likely occur in 2H'99.

I plan to keep you informed of progress towards the TTY/TDD solution through our quarterly update on status. Information of general availability and pricing for the network half of the solution will be available in the next two quarters. Because the total solution also involves adoption by handset manufacturers, we cannot speculate when carriers will be able to comply with the mandate.

If you have any questions or concerns, please call Christopher Fernandez on 630 224 7873.

Thank you,

Albert Jordan
Director, CDMA Product Management

CERTIFICATE OF SERVICE

I, Theresa Fenelon Falk, hereby certify that I am an attorney with the law firm of Pillsbury Madison & Sutro, LLP, and that on this 29th day of June, 1999, I caused to be hand delivered a copy of the foregoing PETITION FOR WAIVER OF SACO RIVER CELLULAR TELEPHONE COMPANY dba STARCELLULAR to the following:

Marty Liebman
Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
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Theresa Fenelon Falk